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U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

<b>APPEAL BRIEF TRANSMITTAL</b>		Docket Number: <b>10191/1541</b>	Conf. No. <b>9759</b>
Application Number <b>09/622,290</b>	Filing Date <b>November 9, 2000</b>	Examiner <b>L. Wilson</b>	Art Unit <b>3723</b>
Invention Title <b>ASSEMBLING DEVICE FOR ASSEMBLING AND DISASSEMBLING A FUEL INJECTOR</b>		Inventor <b>HANS et al.</b>	

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Signature: *LS Maget*

Further to the Notice of Appeal dated March 11, 2003 (filed at the PTO on March 17, 2003) for the above-referenced application, enclosed are three copies of an Appeal Brief. Accompanying the Appeal Brief is the Appendix to the Appeal Brief.

The Commissioner is hereby authorized to charge payment of the 37 C.F.R. § 1.17(c) appeal brief filing fee of \$320.00, a two-month extension fee of \$410 under § 1.17(a)(3), and any additional fees associated with this communication to the deposit account of **Kenyon & Kenyon**, deposit account number **11-0600**.

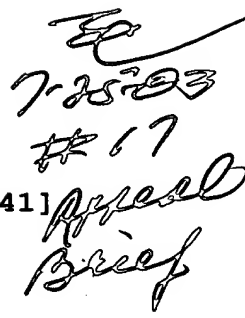
Dated: July 17, 2003

By: *Richard L. Mayer*  
Richard L. Mayer (Reg. No. 22,490)

By: *LS Maget (Reg. No. 41,172)*

KENYON & KENYON  
One Broadway  
New York, N.Y. 10004  
(212) 908-6479 (telephone)  
(212) 425-5288 (facsimile)  
**CUSTOMER NO. 26646**  
**PATENT & TRADEMARK OFFICE**

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SIR:

On March 11, 2003, Appellants filed a Notice of Appeal from the final rejection of claims 11-13 and 15-20 contained in the Final Office Action issued by the U.S. Patent and Trademark Office on September 20, 2002, in the above-identified patent application.

In accordance with 37 C.F.R. § 1.192(a), this brief is submitted in triplicate in support of the appeal of the final rejection of claims 11-13 and 15-20. For the reasons set forth below, the final rejection of claims 11-13 and 15-20 should be reversed.

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1. REAL PARTY IN INTEREST

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The real party in interest in the present appeal is Robert Bosch GmbH, Stuttgart, Federal Republic of Germany. Robert Bosch GmbH is the assignee of the entire right, title, and interest in the above-identified

application.

**2. RELATED APPEALS AND INTERFERENCES**

There are no interferences or other appeals related to the above-identified application.

**3. STATUS OF CLAIMS**

Claims 11-13 and 15 stand finally rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,727,298 to Strong ("Strong").

Claims 16 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Strong.

Claims 18 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 4,970,771 to Wood ("Wood") in view of Strong.

As for the status of claim 17, which was not rejected over any prior art in the Final Office Action, Appellants requested, in the Response After Final, clarification of this status but received none. Instead, the Advisory Action restates that claims 11-13 and 15-20 remain rejected.

A copy of the claims on appeal is attached hereto in the Appendix.

**4. STATUS OF AMENDMENTS**

In response to the Final Office Action that issued on September 20, 2002, Appellants filed a Notice of Appeal, which appealed the final rejection of claims 11-13 and 15-20, and a Response After Final. No Amendment After Final Office Action has been filed in response to the Final Office Action.

**5. SUMMARY OF THE INVENTION**

The assembling device according to the present invention has the advantage over the related art that the

at least one disassembling screw engaging in a thread of the collar section allows simple and damage-free disassembling of the fuel injector inserted into the assembling device. (Specification at page 2, lines 19-24). Disassembling takes place so that the assembling device with the fuel injector is continuously extracted from the mounting hole by tightening the at least one disassembling screw or preferably the plurality of disassembling screws. (Specification at page 2, lines 24-28).

The threads, each assigned to a disassembling screw, peripherally distributed on the collar section, in particular two threads for two disassembling screws, can ensure that the disassembling force resulting from the tightening of the plurality of disassembling screws is directed axially, so that increased friction lock due to a radial force component is avoided. (Specification at page 2, line 34, to page 3, line 7). A symmetric, continuous pulling force is achieved through the simultaneous tightening of the disassembling screws. As an alternative, disassembling can also be performed by tightening the plurality of disassembling screws alternately. (Specification at page 3, lines 3-7).

It is particularly advantageous that openings, preferably in the form of bore holes are provided on the collar section, through which assembling screws engage a thread of the cylinder head. (Specification at page 3, lines 9-11). By tightening these assembling screws, sufficient hold-down force is transmitted to the assembling device and thus to the fuel injector to hold down the fuel injector during the operation of the internal combustion engine against the combustion pressure prevailing in the combustion chamber. (Specification at page 3, lines 12-17). The threads and the openings in the collar section are preferably

dimensioned so that the assembling screws can be used as disassembling screws at the same time. (Specification at page 3, lines 17-19). For this purpose, the threads in the cylinder head and the collar section of the assembling device must have the same diameter and the same taper, and the openings must be dimensioned so that the corresponding screw diameters pass through them. (Specification at page 3, lines 19-23). When the fuel injector is disassembled, the mounting screws are loosened first and then the mounting screws used as disassembling screws are introduced in the thread of the collar section and tightened, whereby the assembling device with the fuel injector is extracted of the mounting hole in the cylinder head. No special disassembling screws need to be provided. (Specification at page 3, lines 23-30).

Preferably at least three openings spaced at an angular distance of  $90^\circ$ , are provided for the mounting screws. This ensures that the hold-down force on the assembling device and thus on the fuel injector is applied uniformly over the periphery. (Specification at page 3, lines 32-36).

According to a particularly advantageous embodiment, the contact section of the assembling device engaging the fuel injector has an extension directed radially inward and an axial extension extending axially beyond the radial extension. (Specification at page 4, lines 1-4). The axial extension is used for transmitting the hold-down force to the fuel injector, while the radial extension engages a groove of the fuel injector to transmit the disassembling force to the fuel injector. (Specification at page 4, lines 5-8). The functions of hold-down and disassembling are separated on the contact section of the assembling device engaging the fuel injector. (Specification at page 4, lines 8-10). This

has the advantage that the area of the disassembling groove of the fuel injector can be implemented by a injected plastic piece, and the area of the fuel injector engaged by the axial extension must be made of metal. This results in simple and cost-effective manufacturing of the fuel injector housing. (Specification at page 4, lines 10-15).

The assembling device can be economically manufactured by deep drawing from sheet metal. (Specification at page 4, lines 17-18).

## **6. ISSUES**

1. Under 35 U.S.C. § 102(b), are claims 11-13 and 15 anticipated by Strong?

2. Under 35 U.S.C. § 103(a), are claims 16 and 20 unpatentable over Strong?

3. Under 35 U.S.C. § 103(a), are claims 18 and 19 unpatentable over Wood in view of Strong?

## **7. GROUPING OF CLAIMS**

Claims 11-13 and 15 stand or fall together.

Claims 16 and 20 stand or fall together.

Claims 18 and 19 do not stand or fall together.

## **8. ARGUMENT**

Claims 11-13 and 15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Strong. In responding to the arguments made by Appellants in the Amendment dated May 2, 2002,, the Examiner states that "[t]he applicant [sic] states that the device is not both an assembly and dissassembly [sic] device. The examiner

disagrees because if you have assembly compenent [sic] then to reverse the use of the components will give you dissassembly [sic] components." Final Office Action at page 4. However true this may be as a general matter, this reasoning fails to consider the specific limitations recited in the claim. In the Strong patent, the specification describes "threaded jack screws to apply a pulling force to remove the shaft from its housing." Column 2, lines 6-7. Further along in the same paragraph, the patent states that "[t]ightening the jack screws raises the extractor and shaft from the housing." Column 2, lines 15-16. Thus, Strong unequivocally states that a tightening of the jack screws applies a releasing force to the shaft. The claimed invention recites just the opposite; the express language of claim 11 states that "a hold-down force [not a releasing force] is transmitted to the collar section by tightening the assembling screw." (Insertion added). Nowhere in Strong is there a disclosure of a tightening of screws producing such a hold-down force. For at least this reason does Strong fail to identically teach each and every limitation in claim 11.

As for the Examiner's assertion later on in the Office Action that no structure is recited by the claim for performing the assembling or disassembling functions, that assertion is patently false. The recited screws are the structures for performing these functions. Claim 11 recites a structure, namely the "assembling screw", and further recites that as a result of a tightening of this screw a hold-down force is transmitted to a collar section. To believe that the assembling screw is not the structure for performing this function is to ignore the plain meaning of the claim language, since it is through this screw that the hold-down force is transmitted. Thus, contrary to the Examiner's belief, Appellants are

not claiming any and all structures for performing this function. Moreover, a belief that a particular structure is absent or inadequate for performing a particular function is no reason to willfully refuse to accord any patentable weight to language expressing such a function, since "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 165 USPQ 494, 496 (CCPA 1970).

Accordingly, since the Examiner has not pointed to any teaching in Strong explaining how a tightening of jack screws 36 can be viewed as producing a hold-down force in the manner recited in claim 11, Appellants submit that the rejection based on Strong should be withdrawn.

As for claims 12, 13, and 15, Appellants submit that these claims are patentable for at least the same reasons given in support of the patentability of claim 11.

Claims 16 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Strong. Since claims 16 and 20 depend from claim 11, Appellants submit that these claims are patentable for at least the same reasons given in support of the patentability of claim 11.

Claims 18 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wood in view of Strong. Appellants submit that these claims are patentable for at least the same reasons given in support of the patentability of claim 11. Notwithstanding the above, Appellants submit the following additional argument in support of the patentability of claim 18.

Claim 18 recites the contact section as including an axial extension that transmits the hold-down force to the fuel injector. In considering this limitation, the Examiner asserts that lips 44 meet the axial extension. Appellants disagree with this

reasoning. In particular, "lips 44 are dimensioned to be received beneath the spherical ball 38 and the support structure 46 of that ball 38, as shown in Figure 8." Column 4, lines 24-26 (emphasis added). If lips 44 are beneath ball 38 and its supporting structure 46, then it stands to reason that it is incapable of transmitting a hold-down force since in order for it do so it must be located at least substantially above, not beneath, the object of the hold-down force. Accordingly, for at least this additional reason, Appellants submit that claim 18 is patentable over the combination of Wood and Strong.

**9. CONCLUSION**

Reversal of the Examiner's rejection of the above-discussed claims is therefore respectfully requested.

Respectfully submitted,

By: LB Magat (Reg. No. 44,172)

Dated: 7/17/03

By: Richard L. Mayer  
Richard L. Mayer  
Reg. No. 22,490

KENYON & KENYON  
One Broadway  
New York, NY 10004  
(212) 425-7200

**APPENDIX**

11. An assembling device for assembling and disassembling a fuel injector in a mounting hole of a cylinder head of an internal combustion engine, the assembling device comprising:

a jacket body having a contact section and a collar section, the jacket body at least partially surrounding the fuel injector, a hold-down force for holding down the fuel injector in the mounting hole and a disassembling force for disassembling the fuel injector being able to be exerted on the fuel injector via the contact section, the collar section protruding from the mounting hole, the collar section having at least one thread into which a disassembling screw can be screwed and at least one opening in which an assembling screw can be inserted so that the assembling screw engages a thread provided in the cylinder head,

wherein:

when the disassembling screw is tightened, the disassembling screw abuts the cylinder head and transmits a disassembling force to the collar section so that the assembling device with the fuel injector inserted into the assembling device is extracted from the mounting hole, and

a hold-down force is transmitted to the collar section by tightening the assembling screw, the hold-down force being such that the assembling device with the fuel injector inserted into the assembling device is held down in the mounting hole.

12. The device according to claim 11, wherein:

a plurality of peripherally distributed threads are arranged on the collar section, each of the

peripherally distributed threads corresponding to a disassembling screw.

13. The device according to claim 12, wherein:
  - two threads of the plurality of peripherally distributed threads are arranged on the collar section diametrically opposite one another, each of the two threads corresponding to a disassembling screw.
15. The device according to claim 11, wherein:
  - a plurality of peripherally distributed openings is arranged on the collar section, each of the plurality of peripherally distributed openings corresponding to an assembling screw.
16. The device according to claim 15, wherein:
  - three openings are arranged on the collar section at an angular distance of greater than  $90^{\circ}$  from one another, the three openings being bore holes, each of the three openings corresponding to an assembling screw.
17. The device according to claim 11, wherein:
  - the at least one thread and the at least one opening are dimensioned so that the assembling screw can be used as a disassembling screw.
18. The device according to claim 11, wherein:
  - the contact section has a radial extension directed inward and an axial extension extending axially over the radial extension, the axial extension transmitting the hold-down force to the fuel injector, the radial extension engaging a disassembling groove of the fuel injector in order

to transmit a disassembling force to the fuel injector.

19. The device according to claim 18, wherein:  
the radial extension surrounds the fuel injector in a smaller angular area than at least one of the jacket body and the collar section.
20. The device according to claim 11, wherein:  
the jacket body includes a deeply drawn metal.